12-14-1982

These chemists will knock your clocks off

University of Montana--Missoula. Office of University Relations

University of Montana
Office of University Relations • Missoula, Montana 59812 • (406) 243-2522

MEDIA RELEASE

braun/rv
12/14/82
state, w/pic

THESE CHEMISTS WILL KNOCK YOUR CLOCKS OFF

By Virginia Vickers Braun
Office of University Relations
University of Montana

MISSOULA--

Most people probably take reasonable care handling household products marked "flammable," but did you ever wonder what actually happens when an aerosol spray can catches on fire? Take some hair sprays, for example. Would the can take off like a bullet? Would it explode in your hand? Would you hair burst into flames? Chances are you wouldn't be foolish enough to try to find out.

But two University of Montana chemists think people, particularly children, should know. Forrest Thomas, a UM chemistry professor, and Edward Keller, a chemistry lecturer, recently put on a demonstration on chemical fires and explosions at Roosevelt School in Missoula to show eighth-grade students what can happen when chemicals are misused. The purpose of the demonstrations, which are given free on request to schools and interested groups throughout the state, is to promote safety in the home, in the science laboratory, and in unexpected circumstances.

It turns out that when hair spray is ignited, flames shoot out of the can like a blow torch. The same is true for other common household sprays like WD-40. If tossed into an open fire, an aerosol can could go off like a rocket.

(over)

"If you're working in your garage and you have a wood stove, be careful where you spray lubricants and other chemicals," Thomas warned the children. "Don't spray them around the stove."

Thomas pointed out that some hair sprays contain propane, the same gas used for heating and cooking. "Learn to read labels," he said.

According to Thomas, society is becoming more and more chemically oriented. Products used to unclog drains, clean toilet bowls, and fertilize lawns all contain powerful chemicals that can be dangerous if misused. Drugs and cleaning agents found around the home should be kept out of the reach of children. Gasoline, oil, lubricants and other products found in most garages should be carefully stored, he said.

"A lot of the inherent dangers in chemistry occur after the fact," Randy York, Roosevelt science teacher, said. "You try to point this out to students all the time."

Thomas and Keller's demonstration included everything from lighting firecrackers, dynamite fuses and gunpowder to chemical experiments that produced loud explosions and great quantities of smoke.

To demonstrate the dangers of playing with blasting caps, Thomas placed a number 6 cap inside a coffee can and set the can inside a five= gallon can which was suspended in a 50-gallon iron drum. The top of the drum was covered with a heavy piece of plasterboard. When the blasting cap went off, the force of the explosion blew the plasterboard up to the ceiling, knocking a wall clock out of place.

"The vividness and noise got the students' attention," York said. "It made the kids aware they're not just playing with sugar and salt in the science lab."

Some of the experiments, which were demonstrated to two different science classes, were difficult to repeat and proved that you can't always predict what will happen when mixing chemicals. "You never can

tell for certain what the reactions will do," Thomas said. You also can never see an explosion coming. "All you ever see are the results--a blown off finger or hand."

Thomas summarized several points to remember:

* Read the labels on containers.

* Put labels on materials taken from one container and placed in another container.

* Keep chemicals, cleansers and drugs out of children's reach.

* Don't conduct any unauthorized experiments.

* Don't mix chemicals just to see what will happen.

* Don't mix and heat chemicals.

* Don't dump chemicals down the sink; they may react with water.

* Don't play around with things you find and don't recognize.

###